Original Article

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Profile of Pregnancy with Defined Risk Factors Attending Tertiary Care Hospital

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Abstract

Introduction: Various maternal complications such as pre – eclampsia, eclampsia, anemia, oligohydramnios etc. are the major causes for perinatal loss. Such high risk pregnancies need to be identified so that appropriate surveillance and timely interventions can be employed. *Methodology:* Pregnant women with high risk factors attending the antenatal out patient clinic or admitted to the wards in the Obstetrics and Gynaecology department, for their high risk factors were recruited into the study. *Results:* In the present study, majority of the cases (74%) were booked and 26% were unbooked. Majority of the cases (47%) belonged to an age group of 21-25years.18 patients (26%) belonged to age group of 26-30 years of age. *Conclusion:* The risk factors with which the patients presented were; hypertensive disorders in pregnancy which included mild and severe pre-eclampsia and gestational hypertension (37.14%), which formed the majority of cases.

Keywords: Pregnancy; Risk Factors; Profile.

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Introduction

In pregnancy the most important measure which reflects the health of fetus is fetal heart rate Fetal heart rate is normally increased or decreased on a beat to beat basis mediated by autonomic influences from brain stem centers. Thus, fetal heart rate acceleration is an indication of autonomic function. Beat to beat variability is under the control of autonomic nervous system. (Matsurra & collegues 1996) [1].

The fetal heart rate has its own intrinsic activity and a rate determined by the spontaneous activity of the pacemaker SA node; this structure has the fastest rate and determines the rate of a normal heart. The next pacemaker is in the atrium followed by AV node, which has the slowest rate of activity and generates the idioventricular rhythm.

The fetal heart rate is modulated by a number of stimuli. Central nervous system influence is important with cortical and subcortical influences which are not under voluntary control. The cardioregulatory centre in the brain stem also plays a part. Other physiological factors that regulate the heart rate are circulatory catecholamines, chemoreceptors, baroreceptors and their interplay with the ANS [2,3].

The efferent component of ANS is composed of the sympathetic and parasympathetic systems. There is a constant input from these systems, wherein, the sympathetic impulses drive the heart rate to increase and parasympathetic impulses which drive the heart rate to decrease [4].

Gestational age influences acceleration or reactivity of fetal heart rate. Pillai & James (1990) studied the development of fetal heart rate acceleration patterns during

Methodology

Pregnant women with high risk factors attending the antenatal out patient clinic or

admitted to the wards in the Obstetrics and Gynaecology department, for their high risk factors were recruited into the study.

Inclusion Criteria

- Gestational age of 30 weeks or more
- Pre – eclampsia
- Anaemia
- Pregnancies beyond 40wks
- Oligohydramnios and polyhydramnios
- History of previous still births
- Clinically suspected IUGR
- Heart diseases complicating pregnancy
- Diabetes mellitus / Gestational diabetes
- Decreased fetal movements

Exclusion Criteria

- Fetuses with congenital anamolies
- Multi-fetal pregnancies

After taking written and informed consent and fulfilling the inclusion criteria, patients were included into the study. A detailed history of the pregnant women included in the study was taken and thorough clinical examination including recording of vital parameters, Systemic and obstetric examination was carried out at booking or admission All preliminary investigations including ultrasound were done. The risk factor for which the patient was included in the study was noted.

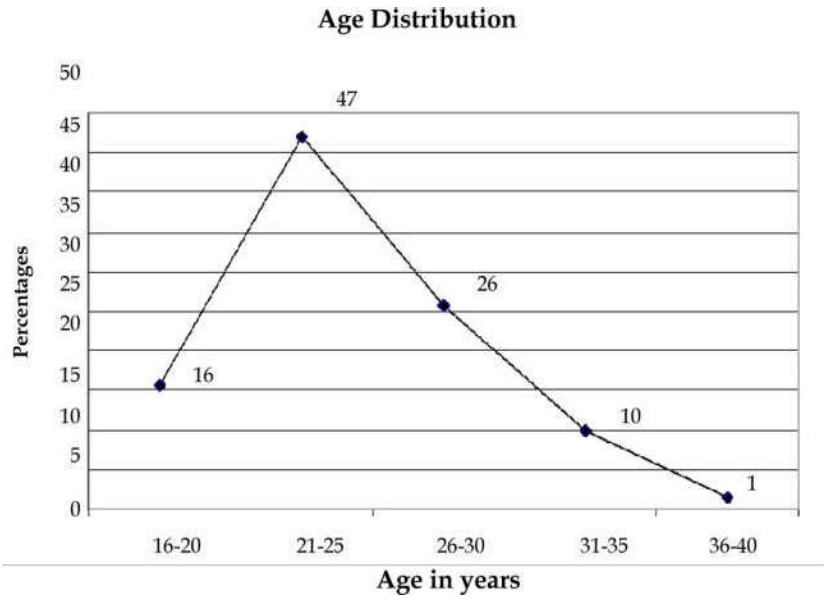
Results

It was observed that, out of 70 patients 11 of them (16%) belonged to the age group between 16-20 years. Majority of the cases (47%) belonged to an age group of 21-25years. 18 patients (26%) belonged to age group of 26-30 years of age.10% of the patients were aged between 31-35 years and only one patient among the study group was aged >35 years

In the present study, majority of the cases (74%) were booked and 26% were unbooked.

Table 1: Age Distribution

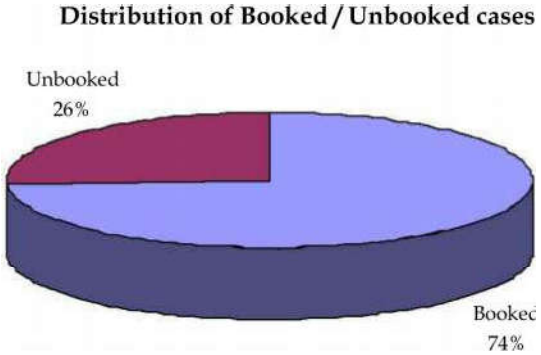
Age in years	Number	%
16-20	11	16
21-25	33	47
26-30	18	26
31-35	7	10
36-40	1	1
Total	70	100
Mean ± S.D.	25 ±	4



Graph 1: Age Distribution

Table 2: Distribution of Booked/ Unbooked cases

Cases	Number	%
Booked	52	74
Unbooked	18	26

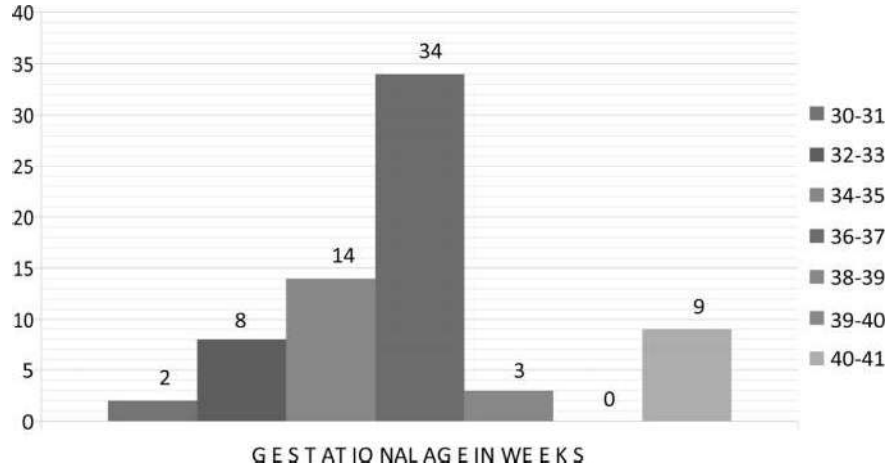


Graph 2: Distribution of booked/ unbooked cases

When the patients were categorized according to the gestational age in weeks, it was found that majority of the patients belonged to the gestational age between 36-37 weeks (48.5%). 20% of the cases were between the gestational age of 34-35 weeks. 12.8% of the cases belonged to 40-41 weeks of gestational age and 11.4% of them to 32-33 weeks of gestation. Those whose gestational age was between 38-39 weeks constituted 7.5%of the patients and only 2.85% of the cases were between 30-31 weeks of gestation.

Table 3: Gestational age wise distribution of cases

Gestational Age in Weeks	Number	%
30-31	2	2.85%
32-33	8	11.4%
34-35	14	20%
36-37	34	48.5%
38-39	3	7.5%
39-40	0	-
40-41	9	12.8%
Total	70	

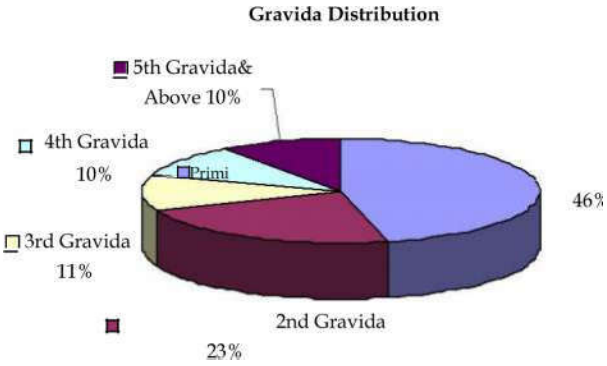


Graph 3: Gestational age wise distribution of cases

Majority of the cases were primigravidae (46%), followed by 2nd gravidae who constituted 23% of the total number of cases. 11% 0f the cases were 3rd gravidae. 4th gravidae and patients who were gravida 5 and above constituted 10% each.

Table 4: Gravida Distribution

Gravida	Number	%
Primigravida	32	46
2ndGravida	16	23
3rdGravida	8	11
4thGravida	7	10
5thGravida& Above	7	10



Graph 4: Gravida Distribution

The risk factors with which the patients presented were; hypertensive disorders in pregnancy which included mild and severe pre-eclampsia and gestational hypertension (37.14%), which formed the majority of cases. patients with bad obstetric history formed 21.43% of the cases and those with postdatism formed 12.86%. patients who presented with decreased fetal movements were 12.6%.those with oligohydramnios were 7.13% and polyhydramnios were 2.86%. Diabetes mellitus and hypothyroidism formed 1.43% of the cases each and patients with rheumatic heart disease constituted 2.86%.

Discussion

This study consisted of 70 patients having pregnancy with high risk factors attending the antenatal outpatient clinic or admitted to the wards in the obstetrics and gynaecology department.

One of the major goals of antepartum fetal surveillance is early identification of the compromised fetus and timely intervention. There are various methods of antepartum fetal surveillance. The best method is the one, which aims at identifying the fetus which is at risk, but still in an uncompromised state and requires immediate intervention. In the present study, the modified biophysical profile (MBPP), which is a combination of two parameters, is used as primary surveillance test for high risk patients. The two parameters are non stress test (NST), which is a short term marker of fetal status & amniotic fluid index (AFI), a long term marker of placental function.

The study group consisted of 70 pregnant patients with high risk factors in each of them. The major risk encountered in this study was hypertensive disorders in pregnancy.

Table 5: Comparison of incidence of risk factors with other study groups

Risk factor	Nageotteetal (1994)[5]	Eden et al (1988)[6]	Present study
PIH	11.8%	27.9%	37.14%

Table 6: Distribution of Risk factors

Risk factors	Number	%
Hypertensive disorders in pregnancy	26	37.14
BOH	15	21.43
Post datism	9	12.86
↓Fetal movements	9	12.86
Oligoamnios	5	7.13
Polyhydramnios	2	2.86
Diabetes Mellitus	1	1.43
Hypothyroidism	1	1.43
RHD	2	2.86

Majority of the patients were primigravidae (46%) and majority of them were in the age group of 21-25 yrs (47%). The surveillance of patients in study group was initiated at 30 wks of gestation, as fetuses beyond this gestational age can be salvaged with good NICU facilities. But majority of the patients in our study had initiation of MBPP testing from 36 wks onwards. This was because of the late referral of patients or patients attending theantenatal clinic, only after the development of complications. In the present study, there were 2 cases where testing was initiated at 30 wks of gestational age and 9 cases where testing was initiated after 41 wks of gestation.

Conclusion

- The most common associated risk factors were hypertensive disorders, BOH, and decreased movements
- Majority of the patients were primigravidae and majority of them were in the age group of 21-25 yrs.

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